

AMENDMENTS TO THE CLAIMS

1. (Canceled).

2. (Amended) A method for digitally watermarking digital image files, said method comprising:

embedding a digital watermark into a digital image file; and

extracting the digital watermark from the digital image file,

wherein said ~~the step of~~ embedding ~~comprises comprising~~: extracting magnitudes of Fourier frequencies from the ~~in said~~ digital image file; file, extracting phases of Fourier ~~frequencies in said digital image file; frequencies,~~ encrypting a signature from the ~~phases of said digital image file; extracted phases, and reassembly of said~~ reassembling the signature into said ~~the~~ digital image file; file, and

extracting said digital watermark from a digital image file;

wherein said ~~the step of~~ extracting ~~comprises comprising~~: detecting said ~~the~~ digital watermark to authenticate said ~~the~~ digital image file.

3. (Amended) The method of claim 2 wherein, said ~~the step of~~ embedding a digital watermark further comprises:

converting the said digital image file to pixel luminance values; and

applying a discrete Fourier transform to said ~~the pixel~~ luminance values to produce a digital data file in the frequency domain.

4. (Amended) The method of claim ~~2~~ 3, wherein said ~~the step of~~ embedding a digital watermark further comprises applying a discrete Fourier transform to the said digital data file to create a frequency representation of the said digital image file.

5. (Amended) The method of claim ~~2~~ 3, wherein said ~~the step of~~ embedding a digital watermark further ~~comprises comprises~~: separating the said digital data file ~~in the frequency domain~~ into a magnitude data file and a phase data file.

6. (Amended) The method of claim 2 4, wherein said ~~the step of embedding a digital watermark~~ further comprises ~~comprises~~: applying a binary phase filter to the ~~said~~ frequency representation of the ~~said~~ digital data file.

7. (Amended) The method of claim 2 6, wherein said ~~the step of embedding a digital watermark~~ further comprises:

assigning a pre-signature to the frequency representation of the digital data file; and

encrypting said ~~the~~ pre-signature into the signature.

8. (Amended) The method of claim 2 3, wherein said ~~the step of embedding a digital watermark~~ further comprises ~~comprises~~: combining an encrypted signature with rounded magnitudes of the discrete Fourier transform to form modified magnitudes.

9. (Amended) The method of claim 2 5, wherein said ~~the step of embedding a digital watermark~~ further comprises ~~comprises~~: forming a new frequency domain file by combining ~~the~~ modified magnitudes of the discrete Fourier transform and the phase data file.

10. (Amended) The method of claim 2 9, wherein said ~~the step of embedding a digital watermark~~ further comprises ~~comprises~~: applying an inverse discrete Fourier transform to the new frequency domain file giving new luminance values for the digital image file.

11. (Amended) The method of claim 2, wherein ~~the step of~~ said extracting ~~said digital watermark from said digital image file~~ further comprises:

converting the ~~said~~ digital image file to pixel luminance values; and
applying a discrete Fourier transform to the ~~said~~ luminance values to produce a digital data file in the frequency domain.

12. (Amended) The method of claim ~~2~~ 11, wherein ~~said the step of~~ extracting ~~said digital watermark from said digital image file~~ further ~~comprises:~~ comprises separating ~~said~~ the digital data file ~~in the frequency domain~~ into a magnitude data file and a phase data file.

13-15. (Canceled).